after line 33, insert the following paragraph:

--While the invention has been described in connection with what are presently considered to be the most practical and preferred embodiments, it is to be understood that the invention is not limited to the disclosed embodiments, but, on the contrary, is intended to cover various modifications and equivalent arrangements included within the spirit and scope of the appended claims.--.

IN THE DRAWINGS:

The Applicants have filed concurrently herewith a Request for Approval of Drawing Changes correcting Figures 3 and 5-10. These changes have been made to add labels to previously unlabeled block diagrams in conformance with U.S. Patent practice.

IN THE CLAIMS:

On amended page 13, line 1, please change "Patent claims" to --What is claimed is:--.

Cancel claims 1-20 without prejudice or disclaimer.

Please add the following new claims 21-51.

21. A method for adjusting tilting of a broadband optical signal transmitted via an optical conductor through injecting at least two pump signals into the optical conductor, the method comprising the steps of:

injecting a first pump signal into the optical conductor, the first pump signal having a first wavelength less than a minimum wavelength of the optical signal;

injecting a second pump signal into the optical conductor, the second pump signal having a second wavelength greater than a

maximum wavelength of the optical signal and having a wavelength spacing relative to a mean wavelength of the optical signal that is different from the first pump signal; and

selecting wavelength and levels of the first and second pump signals such that the optical signal has a predetermined tilting.

22. A method for adjusting tilting of a broadband optical signal transmitted via an optical conductor through injecting pump signals into the optical conductor, the method comprising the steps of:

injecting a pump signal into the optical conductor having a wavelength that is greater than a maximum wavelength of the optical signal; and

selecting the wavelength and a level of the pump signal such that the optical signal has a predetermined tilting for effecting a prescribed change in level of the optical signal.

23. The method according to claim 22, wherein at least one other pump signal is injecting into the optical conductor having a wavelength that is greater than the maximum wavelength of the optical signal.

24. A method for adjusting tilting of an optical signal transmitted via an optical conductor through injecting a plurality of pump signals into the optical conductor, the method comprising the steps of:

transmitting a plurality of transmission bands via the optical conductor;

measuring signal levels of each of the plurality of transmission bands;

injecting at least one pump signal from the plurality of pump

signals into the optical conductor when a prescribed condition in a signal level of at least one the measured signal levels of the plurality of transmission bands occurs; and

setting a level of the at least one pump signal such that the tilting of a transmission band in which the prescribed condition does not occur remains at least substantially constant at a receiving end of the optical conductor.

25. The method according to claim 24, wherein the prescribed condition is a measured change in a signal level of a transmission band.

26. The method according to claim 24, wherein the prescribed condition is an absence of a signal level in a transmission band.

27. The method according to claim 24, wherein at least one further pump signal having a wavelength different from the at least one pump signal is injected into the optical conductor.

28. The method according to claim 27, wherein a first pump signal having a wavelength less than a minimum wavelength of each of the plurality of transmission bands and a second pump signal having a wavelength that is greater than a maximum wavelength of each of plurality of transmission bands are injected into the optical conductor.

29. The method according to claim 26, wherein a pump wavelength of a pump laser used to compensate an absent transmission band corresponds to a mean wavelength of the absent transmission band.

30. The method according to claim 26, wherein in the event of absence of a transmission band, levels of the plurality of pump signals are adjusted at a high rate of adjustment based on known required changes in power and tilting and a signal level of the optical signal are readjusted.

31. The method according to claim 24, wherein wavelength and level of one or more of the plurality of pump signals are selected such that a prescribed tilting occurs at approximately a predetermined level.

32. The method according to claim 24, wherein the plurality of pump signals are controlled to minimize tilting at the receiving end of the optical conductor during undisturbed operation.

33. The method according to claim 24, wherein the plurality of pump signals are controlled to minimize tilting in the transmission bands during undisturbed operation.

34. The method according to claim 24, wherein the plurality of pump signals are controlled to keep the level of the optical signal constant.

35. The method according to claim 24, wherein the plurality of pump signals are controlled to keep the transmission bands constant.

36. The method according to claim 24, wherein the plurality of pump signals are injected at the receiving end of the optical conductor.

37. The method according to claim 21, wherein the first and second pump signals are injected at a receiving end of the optical conductor.

38. The method according to claim 22, wherein the pump signal is injected at a receiving end of the optical conductor.

39. The method according to claim 24, wherein each of the plurality of pump signals is injected at a transmission end of the optical conductor.

40. The method according to claim 21, wherein the first and second pump signals are injected at a transmission end of the optical conductor.

41. The method according to claim 24, wherein at least one of the plurality of pump signals is injected at the receiving end of the optical conductor and at least one other of the plurality of pump signals is injected at a transmission end of the optical conductor.

42. The method according to claim 21, wherein at least one of the first and second pump signals is injected at the receiving end of the optical conductor and the other of the first and second pump signals is injected at a transmission end of the optical conductor.

43. The method according to claim 24, wherein the plurality of pump signals are injected at both the receiving end of the optical conductor and a transmission end of the optical conductor when the pump signals are bidirectional transmission pump signals.

44. An apparatus for adjusting tilting and level of a broadband optical signal transmitted via an optical conductor comprising:

at least two pump lasers that inject respective pump signals into the optical conductor including a first pump laser is configured to inject a first pump signal having a first wavelength that is less than a minimum wavelength of the optical conductor, and a second pump laser configured to inject a second pump signal having a second wavelength that is greater than a maximum wavelength of the optical conductor and having a wavelength spacing relative to a mean wavelength of the optical signal that is different from the first pump signal; and

wherein wavelength and levels of the first and second pump signals are selected such that the optical signal has a prescribed tilting and a prescribed level.

45. An apparatus for adjusting tilting and level of an optical signal transmission via an optical conductor comprising:

at least two pump lasers that inject respective pump signals into the optical conductor; and

a controller for measuring signal levels of at least two transmission bands, and adjusting a power level of at least one of the respective pump signals when a prescribed condition occurs such that the tilting of a transmission band in which the prescribed condition does not occur remains at least substantially constant at a receiving portion of the optical conductor.

46. The method according to claim 45, wherein the prescribed condition is a measured change in a signal level of a transmission band.

47. The method according to claim 45, wherein the prescribed condition is an absence of a signal level in a transmission band.

48. The apparatus according to claim 45, wherein the wavelengths and power levels of the respective pump signals of the at least two pump lasers are selected such that the transmission band in which the prescribed condition does not occur has approximately a predetermined tilting and a predetermined level.

49. The apparatus according to claim 45, wherein the controller adjusts the power level of the at least two pump lasers at a high rate of adjustment based on known required changes in power an absence of a transmission band occurs.

50. The apparatus according to claim 49, wherein controller readjusts at least one of the tilting and the level of the transmission band in which the prescribed condition does not occur after the power level of the at least two pump laser has been adjusted at the high rate of adjustment.

51. The apparatus according to claim 45, further comprising:

a transmitting portion connected to the optical conductor; and

an optical amplifier located in at least one of the transmitting portion and the receiving portion;

wherein the controller adjusts at least one of a gain and a tilting of the optical amplifier.